WHAT IS CLAIMED IS:

5   1.   A port acceleration apparatus for a fibre channel arbitrated loop that connects a plurality of devices, the apparatus comprising:
          at least one fibre channel input configured to receive data from the fibre channel arbitrated loop;
10   at least one fibre channel output configured to send data to the fibre channel arbitrated loop;
          at least one device input configured to receive data from at least one of the devices;
          at least one device output configured to send data to at
15   least one of the devices;
          at least one controller configured to process at least one fibre channel primitive flowing in the fibre channel arbitrated loop to generate at least one signal indicative of whether data from the at least one fibre channel input is to
20   be routed to the at least one fibre channel output; and
          at least one multiplexer configured to route, in accordance with the at least one signal, the data received by the at least one fibre channel input to the at least one fibre channel output.
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          2.   The apparatus of claim 1 wherein the at least one fibre channel primitive includes at least one of an ARB primitive and an OPN primitive.

30   3.   The apparatus of claim 1 wherein the at least one multiplexer routes, in accordance with the at least one signal, the data received by the at least one device input to the at least one fibre channel output.

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4.   The apparatus of claim 1 wherein the at least one multiplexer routes, in accordance with the at least one signal, at least one ARB primitive to the at least one fibre channel output.

5.   The apparatus of claim 1 wherein the at least one signal is indicative of at least one source of data to be routed to the at least one device output.

6.   The apparatus of claim 5 wherein the at least one multiplexer routes to the at least one device output, in accordance with the at least one signal, data received by the at least one data loop input or at least one CFW primitive.

7.   The apparatus of claim 1 wherein the apparatus comprises an integrated circuit.

8.   The apparatus of claim 1 wherein the apparatus comprises a hub.

9.   A method for accelerating traffic flow in a fibre channel arbitrated loop that connects a plurality of devices, the method comprising:
    receiving, from the fibre channel arbitrated loop, data comprising at least one fibre channel primitive;
    processing the at least one fibre channel primitive to generate at least one signal indicative of at least one source of data to be routed to the fibre channel arbitrated loop; and
    routing, in accordance with the at least one signal, the data received from the fibre channel arbitrated loop back to the fibre channel arbitrated loop.

10.   The method of claim 9 wherein the at least one fibre channel primitive includes at least one of an ARB primitive and an OPN primitive.

11.   The method of claim 9 further comprising routing, in accordance with the at least one signal, data received from at least one of the devices to the fibre channel arbitrated loop.

12.   The method of claim 9 further comprising routing, in accordance with the at least one signal, at least one ARB primitive to the fibre channel arbitrated loop.

13.   The method of claim 9 wherein the at least one signal is indicative of at least one source of data to be routed to at least one of the devices.

14.   The method of claim 13 further comprising routing to the at least one device output, in accordance with the at least one signal, data received from the fibre channel arbitrated loop or at least one CFW primitive.

15.   A data routing apparatus for at least one device associated with a data loop, the apparatus comprising:
        at least one data loop input configured to receive data from the data loop;
        at least one data loop output configured to send data to the data loop;
        at least one controller configured to process at least a portion of the data received by the at least one data loop input to generate at least one signal indicative of at least one source of data to be routed to the at least one data loop output; and

at least one multiplexer configured to route to the at least one data loop output, in accordance with the at least one signal, data received by the at least one data loop input or data associated with the at least one device.

16. The apparatus of claim 15 wherein the processing comprises determining whether the at least one device is authorized to participate in a conversation currently associated with the data loop.

17. The apparatus of claim 15 wherein the processing comprises determining whether the at least one device has successfully arbitrated to gain access to the data loop or is communicating with at least one other device that has successfully arbitrated to gain access to the data loop.

18. The apparatus of claim 15 further comprising at least one device input configured to receive data from the at least one device.

19. The apparatus of claim 18 wherein the data associated with the at least one device comprises data received by the at least one device input.

20. The apparatus of claim 18 wherein the data associated with the at least one device comprises data used to arbitrate for access of the data loop.

21. The apparatus of claim 15 further comprising at least one device output configured to send data from the at least one device.

22.   The apparatus of claim 21 wherein the at least one signal is indicative of at least one source of data to be
5   routed to the at least one device output.

23.   The apparatus of claim 22 wherein the at least one multiplexer routes to the at least one device output, in accordance with the at least one signal, data received by the
10   at least one data loop input or other data.

24.   The apparatus of claim 15 wherein the apparatus comprises an integrated circuit.

15   25.   The apparatus of claim 15 wherein the apparatus comprises a hub.

26.   A method for routing data to at least one device associated with a data loop, the method comprising:
20   receiving data from the data loop;
               processing at least a portion of the data from the data loop to generate at least one signal indicative of at least one source of data to be routed to the data loop; and
               routing, in accordance with the at least one signal, data
25   from the data loop back to the data loop.

27.   The method of claim 26 wherein the processing comprises determining whether the at least one device is authorized to participate in a conversation currently
30   associated with the data loop.

28.   The method of claim 26 wherein the processing comprises determining whether the at least one device has successfully arbitrated to gain access to the data loop or is
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communicating with another device that has successfully arbitrated to gain access to the data loop.

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29. The method of claim 26 further comprising routing, in accordance with the at least one signal, data from the at least one device to the data loop.

10   30. The method of claim 26 further comprising routing, in accordance with the at least one signal, data used to arbitrate for access of the data loop to the data loop.

31. The method of claim 26 wherein the at least one
15 signal is indicative of at least one source of data to be routed to the at least one device.

32. The method of claim 31 further comprising the step of routing to the at least one device, in accordance with the
20 at least one signal, data from the data loop or other data.

33. An apparatus that communicates via a data loop, the apparatus comprising:

at least one processor configured to process data
25 associated with the data loop;

at least one data loop input configured to receive data from the data loop;

at least one data loop output configured to send data to the data loop;

30   at least one controller configured to process at least a portion of the data from the at least one data loop input to generate at least one control signal indicative of whether the data from the at least one data loop input is to be routed to the at least one processor; and

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at least one multiplexer configured to route, in accordance with the at least one control signal, the data from
5 the at least one data loop input to the at least one data loop output.

34. The apparatus of claim 33 wherein, in accordance with the at least one control signal, the at least one
10 multiplexer routes to the at least one data loop output either the data from the data loop or data from the at least one processor.

35. The apparatus of claim 33 wherein the apparatus
15 comprises a data storage system.

36. The apparatus of claim 33 wherein the apparatus comprises a disk-based data storage system.

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